

Claims:

1. A process for granulating powders of thermoplastic polymers, in which the polymer powder prepared in a polymerization reactor is introduced into an extruder, melted and homogenized in the extruder, then pressed through an extrusion die and granulated, wherein an organic solvent or suspension medium is added to the polymer powder in an amount in the range from 0.001 to 20 % by weight, based on the total weight of polymer powder plus solvent or suspension medium, prior to introduction into the extruder.
2. The process as claimed in claim 1, wherein the thermoplastic polymers used are polyolefins.
3. The process as claimed in claim 1 or 2, wherein the polymers used are polyolefins having a multimodal molar mass distribution.
4. The process as claimed in any of claims 1 to 3, wherein the addition of solvent or suspension medium is effected by the polymer powder, which is prepared in suspension in the polymerization reactor, not being subjected to complete drying, but rather being partly dried only to such an extent that the desired amount of solvent or suspension medium is established in the range from 0.001 to 20 % by weight in the polymer powder.
5. The process as claimed in any of claims 1 to 3, wherein the addition of solvent or suspension medium is effected by addition to dry polymer powder so that the desired amount of solvent or suspension medium is established in the range from 0.001 to 20 % by weight in the polymer powder.
6. The process as claimed in any of claims 1 to 3, wherein the addition of solvent or suspension medium is effected by introduction into the extruder so that the desired amount of solvent or suspension medium is established in the range from 0.001 to 20 % by weight in the polymer powder.

7. The process as claimed in any of claims 1 to 6, wherein the amount of solvent or suspension medium in the powder of thermoplastic polymer is in the range from 0.0015 to 15 % by weight.
- 5 8. The process as claimed in any of claims 1 to 7, wherein the amount of solvent or suspension medium in the powder of thermoplastic polymer is in the range from 0.002 to 10 % by weight.
- 10 9. The process as claimed in any of claims 1 to 8, wherein the amount of solvent or suspension medium in the powder of thermoplastic polymer is in the range from 0.01 to 5 % by weight.
- 15 10. The process as claimed in any of claims 1 to 9, wherein the organic solvent or suspension medium used is a saturated or cyclic or polycyclic or aromatic hydrocarbon having from 3 to 18, preferably from 4 to 12, carbon atoms.
- 20 11. A Method for the increase of the throughput of thermoplastic polymer powder through an extruder during granualtion thereby maintaining the energy consumption, whereby an organic solvent or suspension medium is added to the polymer powder prior to its introduction into the extruder in an amount of from 0.01 to 5 % by weigt, based on the total weigt of the mix of polymer plus organic solvent or suspension medium.
- 25 12. A Method for the decrease of energy consumption of an extruder during granualtion of thermoplastic polymer powder thereby maintaining the throughput of polymer through the extruder, whereby an organic solvent or suspension medium is added to the polymer powder prior to its introduction into the extruder in an amount of from 0.01 to 5 % by weigt, based on the total weigt of the mix of polymer plus organic solvent or suspension medium.
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